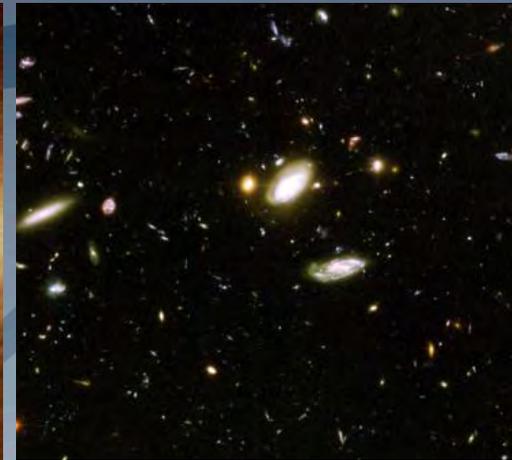




Astrophysics

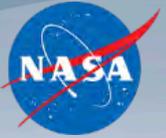


Astrophysics Explorers PI Forum

Crystal City, VA
September 20, 2018

Andrea Razzaghi

Deputy Director, Astrophysics
Division
Science Mission Directorate



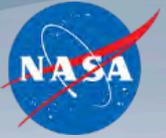
The underlying philosophy of the Explorers Program ...

- Has not changed since the beginning of the PI-led Explorers Program in the early 1990s:
 - Compelling science
 - PI-led teams
 - PI-managed cost commitment
- Is consistently considered scientifically productive; quotes from the 2010 Decadal Survey:

Explorers have delivered a scientific return on investment at the highest level over the past two decades.

... a program that delivers a high level of scientific return on relatively moderate investment and that provides the capability to respond rapidly to new scientific and technical breakthroughs.

The promise of future Explorer missions is as great as ever.



What are the most important aspects of Explorer Missions to the Astrophysics Division?

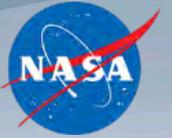
- Compelling science
- Technical success with acceptable risk
- Cost performance within PI cost commitment
 - At downselect (KDP-B)
 - At confirmation (KDP-C)
 - HQ-held UFE is not available to solve your problems

During the Concept Study:

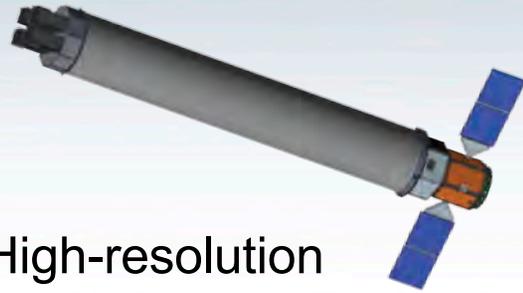
- Define team roles and coordination between PI, PM and others.
- “NASA recognizes and supports the benefits of having diverse and inclusive scientific, engineering, and technology communities, and fully expects that such values will be reflected in the composition of mission and instrument teams.” (see Concept Study Guidelines)

Astrophysics MIDEX/MO Missions in Formulation

Selected August 2017



Arcus: PI Smith/SAO



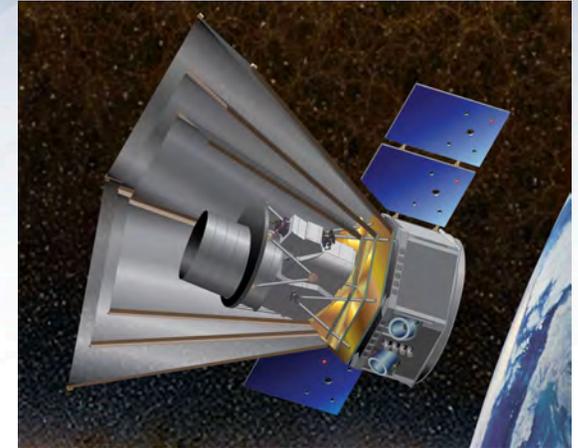
High-resolution
X-ray spectroscopy

FINESSE: PI Swain/JPL



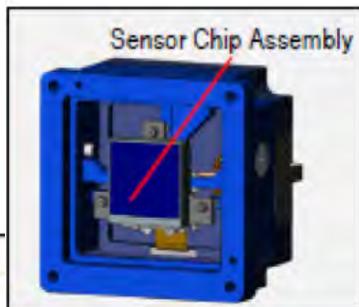
NIR transit spectroscopy
of exoplanets

SPHEREx: PI Bock/Caltech

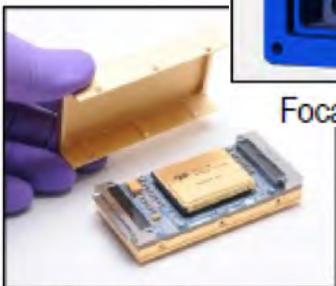


NIR spectral survey
of entire sky

CASE:
PI Swain/
JPL



Focal Plane Module



Cold Front End Electronics

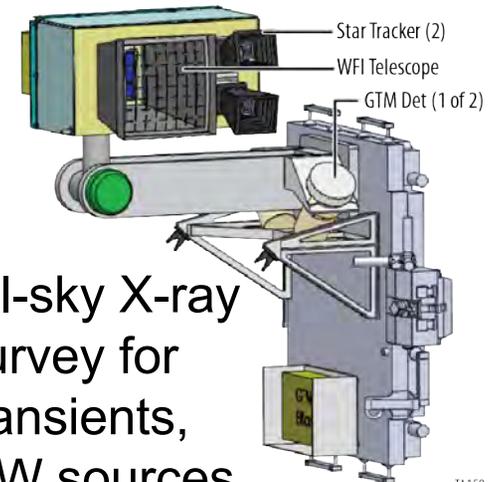
Detectors for ESA's ARIEL

COSI-X: PI Boggs/UCB



ULDB gamma-ray balloon:
synthesis of elements

ISS-TAO: PI Camp/GSFC



All-sky X-ray
survey for
transients,
GW sources

TA159